

Listed are synopses of recent papers and books that should be of interest to the readers of the *IBM Systems Journal*. Inquiries should be directed to the publications or publishers cited.

Central systems architecture, Tore A. Høie (E/ME/A Lyngby, Denmark), North-Holland Publishing Company, Amsterdam, 1981. 645 pp. (ISBN 0-444-86163-7). Central systems planning, implementation, and control are important in the complex computer systems of today. This book discusses techniques involved with a design approach for planning and controlling complex IBM computing centers. A large part of the book is devoted to planning methodology, which is considered to be the most significant factor. A number of case studies that represent various situations are presented at the end.

Suggested reading

Communication network availability predictions based on measurement data, John D. Spragins (Clemson University), James D. Markov, M. W. Doss (CPD Raleigh, NC), Stephanie A. Mitchell (DPD Winston-Salem, NC), and David C. Squire (Tektronix, Inc.), *IEEE Transactions on Communications* **COM-29**, No. 10, 1482-1491 (October 1981). Reliability of telephone systems used in conjunction with distributed function computer communication systems is becoming more important with the emphasis on real-time operation. This paper presents results that allow more realistic availability predictions for common types of networks than were previously computable. A heuristic model for estimating availabilities for more complex systems is presented along with computer simulation data validating the accuracy of the model.

Design of a small business data processing system, Frank G. Soltis (SPD Rochester, MN), *Computer* **14**, No. 9, 77-93 (September 1981). The technology and environmental considerations for the design of a new system, the IBM System/38, are reviewed along with their influence on the architecture of the machine. The goal of the design was to provide the small system user computing facilities that had previously been available on large systems. Primary concerns were simplified application development, installation, operation, and maintenance for ease of use of the system. Development of the system based on that design objective is described.

Distributed systems management—A key to success, L. Wheaton Smith (DPD Palo Alto CA), *COMPCON Fall '80*, IEEE, Piscataway, NJ (1980), pp. 16–22. New technical and management skills are required to make the most cost-effective use of distributed systems. This paper discusses an approach to managing distributed systems that is an extension of a successful approach to managing conventional information systems. Eight management disciplines that make the management of distributed systems successful are described.

Formal grammar and human factors design of an interactive graphics system, Phyllis Reisner (RES San Jose, CA), *IEEE Transactions on Software Engineering* SE-7, No. 2, 229–240 (March 1981). The use of formal grammatical description as a predictive tool to compare alternative designs for ease of use is demonstrated by example. The human interface for two versions of an interactive graphics system for nonprogrammers is described. It is shown how the user languages for the two versions can be described in terms of a production rule notation. Predictions about human performance based on the formal description is presented along with some exploratory results.

Logical construction of systems, Jean-Dominique Warnier (La Compagnie Internationale pour l'Informatique CII-Honeywell Bull), Van Nostrand Reinhold Company, New York, 1981. 192 pp. (ISBN 0-442-22556-3). This book proposes a methodology to apply to the organization of data. Logical construction serves as the base for the methodology. Basic rules for organizing data are presented, with practical examples used as illustrations of the rules. A set of steps is provided for the design of a system.

Local-area subnetworks: A performance comparison, Werner Bux (RES Zurich, Switzerland), *IEEE Transactions on Communications* COM-29, No. 10, 1465–1473 (October 1981). Local networks are becoming important in the office system and data processing complexes of many enterprises. This paper provides a technical comparison of the performance of the ring and bus systems that make up subnetworks of such local networks. The performance comparison is done in terms of the delay-throughput characteristics based on analytic models. Types of systems investigated are token-controlled and slotted rings and random-access and ordered-access buses.

LSI/VLSI design automation. Torrance C. Raymond (DSD Poughkeepsie, NY), *Computer* 14, No. 7, 89–101 (July 1981). This article addresses the use of computer-aided design for circuits employing large-scale integration/very large-scale integration (LSI/VLSI). Primary emphasis is on the functions provided for each phase of design. Both the logic entry and design verification process and the physical design process are discussed.

System for Business Automation (SBA): A unified application development system, S. Peter deJong (RES Yorktown Heights, NY), *Proceedings of the IFIP Congress 80*, North-Holland Publishing Company, Amsterdam (1980), pp. 469-474. System for Business Automation allows the end user and programmer to describe applications directly on a computer. The system contains a unified language that replaces the languages and functions now involved with implementing an application. An end user can deal with the familiar two-dimensional objects of manual applications such as tables, forms, and charts.